

REMARKS

Claims 1-20 are pending in the present application. Claims 10 and 15 have been amended. The Examiner has indicated that claims 1-9 are allowed and that claims 14, 16 and 18-20 would be allowable if rewritten to include all of the limitations of the claims from which they depend.

Applicants respectfully request reconsideration of the application in view of the foregoing amendments and the remarks appearing below.

Objections to Claims

The Examiner has objected to claim 10 because it appears that the phrase "and controlled using" should be "and a controlled oscillator using." Relatedly, the Examiner has objected to claim 11 because the recitation of "the oscillator" lacks antecedent basis. Applicants have amended claims 10 and 11 in a manner that renders these objections moot.

The Examiner has objected to claim 15 because of informalities in the identification of the distinct clauses in the body of this claim. Applicants have amended claim 15 to correct the identification of these clauses.

In view of the foregoing, Applicants respectfully request that the Examiner withdraw the present objections.

Rejection Under 35 U.S.C. § 102

The Examiner has rejected claims 10 and 11 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,683,502 to Groen et al., stating that Groen et al. disclose a method having all of the limitations of these claims. Applicants respectfully disagree.

Groen et al. disclose a two-step method of adjusting a phase locked loop (PLL) for operating variations caused by variations in the fabrication process by which the PLL was made. The first step of the method is to adjust each of a typical frequency voltage curve (410), a slow frequency voltage curve (420) and a fast frequency voltage curve (430) so that all three of these curves have the same center frequency at a control voltage (VOC_C) of zero volts. This is done by varying a bias current (I_bias) for each of the curves while the control voltage is zero. FIG. 4 shows the three curves (410, 420, 430) prior to this first step. FIG. 5 shows the three curves (510, 520, 530) after the first step.

The second step of the method is to change the control voltage from zero and then vary the gain (K_{VCO}) of the voltage controlled oscillator so as to smooth the three curves (510, 520, 530) so that they essentially coincide with one another. FIG. 6 shows curves (510, 520, 530) after this smoothing.

In contrast, claim 12, as amended, is directed to a method of controlling a PLL that includes the step of varying the setup of the phase locked loop as a function of a plurality of operating parameters so as to adjust the topology of the PLL so as to achieve a desirable topology for each of the plurality of target frequencies that substantially re-centers the control parameter to a pre-selected value. Groen et al. do not disclose this step. For example, Groen et al. disclose only operating the phase locked loop at one target frequency, not at any one of a plurality of target frequencies. Consequently, Groen et al. do not disclose the limitation of amended claim 10 of achieving a desirable topology for each of a plurality of target frequencies. Since the Groen et al. patent does not disclose these limitations of amended claim 12, it cannot anticipate claim 10, nor claim 11 that depends therefrom.

For at least the foregoing reasons, Applicants respectfully request that the Examiner withdraw the present anticipation rejection.

Rejection Under 35 U.S.C. § 103

The Examiner has rejected claims 12, 15 and 18 under 35 U.S.C. § 103 as being obvious in view of Groen et al., above, and U.S. Patent No. 6,642,780 to Isoda, stating that Groen et al. disclose all of the limitations of these claims except a plurality of environmental operating parameters and sources of these parameters. The Examiner then asserts that Isoda discloses the missing limitations and asserts that it would have been obvious to a person having ordinary skill in the art at the time of the invention to control the Groen et al. PLL as a function of environmental parameters and provide sources for these parameters. Applicants respectfully disagree.

Each of claims 12, 15 and 18, as amended, includes a limitation directed to re-centering a control parameter to a pre-selected value for each of a plurality of target frequencies. Neither the Groen et al. nor the Isoda patents disclose such a limitation. Therefore, any combination of the Groen et al. and Isoda patents would necessarily fail to include this limitation. Consequently, the cited combination cannot render amended claims 12, 15 and 18 obvious.

For at least this reason, Applicants respectfully request that the Examiner withdraw the present obviousness-type rejection.

CONCLUSION

In view of the foregoing, Applicants submit that claims 1-20, as amended, are in condition for allowance. Therefore, prompt issuance of a Notice of Allowance is respectfully solicited. If any issues remain, the Examiner is encouraged to call the undersigned attorney at the number listed below.

Respectfully submitted,

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